

What is claimed is:

1. An inverter device, comprising:

a plurality of semiconductor chips that are connected in
5 parallel and constitute an arm of an inverter;

a first conductor to which a face on one side of said
plurality of semiconductor chips is connected;

a wide conductor to which a face on the other side of
said plurality of semiconductor chips is connected;

10 a second conductor connected to said wide conductor; and

a cooler to which said first conductor and second
conductor are connected through an insulating resin sheet.

2. An inverter device, comprising:

15 a first semiconductor chip group wherein a plurality of
semiconductor chips constituting an upper arm of an inverter
are connected in parallel;

a first conductor to which faces on one side of said
semiconductor chips of said first semiconductor chip group
20 are connected;

a second semiconductor chip group wherein a plurality of
semiconductor chips constituting a lower arm of said
inverter are connected in parallel;

a second conductor to which faces on one side of said
25 semiconductor chips of said second semiconductor chip group
are connected;

a first wide conductor to which faces on the other side of the semiconductor chips of said first semiconductor chip group are connected;

5 a second wide conductor to which faces on the other side of said semiconductor chips of said second semiconductor chip group are connected;

a third conductor connected with a three-phase output electrode connected to said first wide conductor and arranged between said first conductor and second conductor;

10 a fourth conductor connected with a negative electrode connected with said second wide conductor and arranged between said first conductor and second conductor; and

a cooler to which said first to fourth conductors are connected through an insulating resin sheet.

15

3. The inverter device according to claim 1 or 2, further comprising:

a heat buffer plate connected to said wide conductor at a face on the other side of said semiconductor chip.

20

4. A method of manufacturing an inverter device, comprising:

bonding a plurality of semiconductor chips and a heat buffer plate by a low melting point or high melting point
25 solder;

bonding said heat buffer plate and a conductor by a low melting point or high melting point solder;

fixing said conductor to a cooler; and

fixing said heat buffer plate and a wide conductor.

5

5. The method of manufacturing an inverter device according to claim 4, further comprising:

dividing said wide conductor into a plurality of chips;
and

10 fixing said conductor and said cooler by application of pressure at locations where a plurality of semiconductor chips are not bonded to said conductor.

6. An electric automobile, comprising:

15 (1) an inverter device comprising:

a plurality of semiconductor chips that are connected in parallel and constitute an arm of an inverter;

a first conductor to which a face on one side of said plurality of semiconductor chips is connected;

20 a wide conductor to which a face on the other side of said plurality of semiconductor chips is connected;

a second conductor connected to said wide conductor;

a cooler to which said first conductor and second conductor are connected through an insulating resin sheet;

25 and

(2) an electric motor incorporating said inverter device and that drives a drive wheel by using an AC power from said inverter device.

5 7. An electric automobile, comprising:

(1) an inverter device comprising:

a plurality of semiconductor chips that are connected in parallel and constitute an arm of an inverter;

a first conductor to which a face on one side of said
10 plurality of semiconductor chips is connected;

a wide conductor to which a face on the other side of said plurality of semiconductor chips is connected;

a second conductor connected to said wide conductor;

a cooler to which said first conductor and second
15 conductor are connected through an insulating resin sheet;

(2) an electric motor incorporating said inverter device and that drives a drive wheel by using an AC power from said inverter device; and

(3) an internal combustion engine that drives said drive
20 wheel and is provided in addition to said electric motor.